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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/648,096

08/26/2003

Niranjan Thirukkoyalur

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06/02/2008

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INTELLECTUAL PROPERTY ADMINISTRATION  
FORT COLLINS, CO 80527-2400

EXAMINER

LEE, CYNTHIA K

ART UNIT

PAPER NUMBER

1795

NOTIFICATION DATE

DELIVERY MODE

06/02/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

JERRY.SHORMA@HP.COM  
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<b>Office Action Summary</b>	<b>Application No.</b> 10/648,096	<b>Applicant(s)</b> THIRUKKOVALUR, NIRANJAN	
	<b>Examiner</b> CYNTHIA LEE	<b>Art Unit</b> 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 16-40 is/are pending in the application.
- 4a) Of the above claim(s) 1-7, 10-14, 16, 17, 19-21 and 26-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8, 9, 18 and 22-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

***Response to Amendment***

This Office Action is responsive to the amendment filed on 6/8/2007. Claims 1-14 and 16-40 are pending. Claims 1-7, 10-14, 16, 17, 19-21, and 26-40 are withdrawn from further consideration as being drawn to a non-elected invention. Applicant's arguments have been fully considered and are persuasive. However, upon further consideration, the instant claims are rejected under new grounds of rejections. Claims 8, 9, 18, and 22-25 are finally rejected for reasons necessitated by applicant's amendment.

***Election/Restrictions***

Applicant's election of Figs. 4, 5A, and 5B claims 8, 9, 18, and 22-25 in the reply filed on 2/13/2008 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear as to what materials are suitable to support a fuel cell stack and what materials are not suitable to support a fuel cell stack.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 8, 9, and 18 are rejected under 35 U.S.C. 102(a) as being anticipated by Hatano (US 2002/0177026).

See fig. 10A. Hatano discloses

obtaining a first current collector layer suitable for physically supporting parts of a fuel cell stack, wherein the fuel cell stack includes at least two electrodes and an electrolyte layer;

depositing a first electrode on the first current collector layer;

depositing the electrolyte layer of the fuel cell stack on the first electrode layer;

depositing a second electrode layer of the fuel cell stack on the electrolyte layer;

depositing a second current collector layer of the fuel cell stack on the second electrode layer; and

mounting the fuel cell stack within an enclosure defining a chamber of a fuel cell, wherein a connection between an inside surface of the enclosure and the first current collector layer physically supports the fuel cell stack within the chamber.

It is noted that the current collector on the bottom of the fuel cell in fig. 10A supports that fuel cell stack [0050].

Regarding claims 9 and 18, the porous base body (or current collector) can be made of expanded foam metal [0029]. It is noted that felt can also be used as the porous base body [0109].

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hatano (US 2002/0177026) as applied to claim 8, in view of Jankowski (US 6638654).

Hatano discloses all the elements of claim 8 and are incorporated herein. Hatano does not disclose the dimensions of the porous body nor the electrodes. However, Jankowski teaches a fuel cell with a porous body with the dimensions of 10 um to 200 um (Applicant's claim 23), the electrodes with a thickness of 1000 Å to 2 um. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the porous body and the electrodes of the dimensions of Jankowski for the benefit of making the fuel cell small. It is noted that the range of the thickness of the porous body is between approximately ten and twenty times a thickness of the electrode. Regarding claim 24, it has been held that a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same

properties. Titanium Metals Corp. of America v. Banner, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). See MPEP 2144.05.

### ***Response to Arguments***

Applicant's arguments filed 6/8/2007 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Lee whose telephone number is 571-272-8699. The examiner can normally be reached on Monday-Friday 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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ckl

/Cynthia Lee/

Patent Examiner

/PATRICK RYAN/

Supervisory Patent Examiner, Art Unit 1795